



Government of Tuvalu



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TUVALU NATIONAL ENERGY POLICY



Cover photos by Ms Lala Bukarau and Mr Bhaskar Rao, SOPAC

August 2009



FORWARD



This Tuvalu National Energy Policy (TNEP) is the first ever produced in an attempt to clearly define and direct current and future energy developments and usages throughout Tuvalu. The rapid shift from subsistence to cash or monetary economy in contemporary Tuvalu as posed by the effects of globalization paved the way for such immediate and fitting policies and responses to be devised to address such swift changes. TNEP is no doubt a product of these much needed responses, and its sole objective is to improve the well-being of the Tuvalu people by promoting the use of its renewable energy resources, which are cost-effective, reliable, affordable and environmentally sustainable.

TNEP was developed by the Energy Department and SOPAC following successive consultation workshops that were conducted by a Technical Assistant from SOPAC and energy stakeholders on Funafuti in 2005. Its eventual completion and release is timely with the very recent surges in oil prices and Tuvalu's growing demand and dependency on fossil fuel. Renewed global interest in exploring renewable energy sources to substitute fossil fuels make this document very crucial.

TNEP provides the framework necessary for coordinating both our domestically financed efforts as well as regional and bilateral assistance in the energy sector.

I commend this document for all.

A handwritten signature in black ink, appearing to read 'Kausea Natano', written over a horizontal dotted line.

Hon. Kausea Natano

Minister for Public Utilities and Industries



ACKNOWLEDGEMENT

The Minister of Public Utilities and Industries and the Department of Energy would like to acknowledge the collaboration effort of Energy stakeholders, consultants and others, who assisted directly or indirectly in the formulation of the first Tuvalu National Energy Policy. It is impossible to acknowledge all people by name, but thanks are due to all for their wholehearted participation and hard work.

However, particular thanks are due to Mr. Anare Matakiviti, former Energy Adviser at SOPAC for his technical assistance in the development and formulation of the TNEP through in-country consultations provided under the Pacific Island Energy Policies and Strategic Action Planning (PIEPSAP) project. His contributions, technical know-how in all aspects of energy related activities and valuable advises are very much appreciated.

Grateful thanks are also extended to Mr. Rupeni Mario, SOPAC Energy Adviser for the fine-tuning and production of this document for the Tuvalu Energy Sector.



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VISION

“By the year 2020 guided by the principles in the “Te Kakeega II” and the “Malefatunga Declaration”, Tuvalu shall attain a prosperous living standard that is fostered through an energy policy that promotes the provision of socially, financially, economically, technically, politically and environmentally sustainable energy systems and within the framework of the Tuvalu Initial National Communication under the United Nations Framework on Climate Change (Oct 1999)”.

GOAL

To improve the well-being of the Tuvalu people by promoting the use of its renewable energy resources and implementing cost effective, equitable, reliable, accessible, affordable, secure and environmentally sustainable energy systems.



POLICY CONSIDERATIONS



There are three (3) principal energy policy considerations detailed in the Tuvalu National Energy Policy framework, namely:

(i) Supply Issues

The provision of adequate, secure, and cost-effective energy supplies through the promotion of indigenous energy resources specifically renewable energy resources using the least cost options and diversification of supply sources both from within and outside the country is critical to ensuring security of supply.

(ii) Utilisation Issues

The efficient utilisation of energy and to discourage wasteful and non-productive patterns of energy consumption is vital for a country that is so dependent on imported energy sources.

(iii) Environmental Issues

Due to the fragility of the environment in Tuvalu, environmental issues are high on the Government agenda. Therefore, it is important that the energy policies are targeted at minimising the negative impacts of energy production, transportation, conversion, utilisation and consumption on the environment. This policy framework provides details of how the Government of Tuvalu can effectively address these three critical considerations.



GUIDING PRINCIPLES OF THE POLICY



The TNEP is developed with six (6) guiding principles namely: sustainability, gender equity, environment compatibility, stakeholder participation, good governance, and cultural and traditional compatibility which are presented below.

(i) Sustainability

The broader outlook of energy effectively contributing to sustainable development provides one of the key principles in developing the TNEP. The TNEP will provide the guidance and necessary ingredients to provide sustainable energy services. Affordability is a significant component to access energy services and Government is mindful of this with respect to the different level of income of communities. It is with the intention that TNEP will provide the framework that would enable the various communities provide for their energy needs.

(ii) Gender Equity

Government is mindful of the needs of different gender groups and levels of development pertaining to the different communities. The distinct needs of men, women, children and social groups will be taken into consideration in any energy development activities. Attention shall be given to ensure that energy programmes that are developed and implemented strike a balance between social and economic development needs of the population.

(iii) Environment Compatibility

The fragile atoll environment and increasing trends of energy consumption is noteworthy. It is therefore intended that all energy initiatives will need to seriously consider environmental issues and in particular the impact of energy production, storage, transmission and distribution on land, water and air. Any proposed energy development will require an environmental impact assessment. It is with anticipation that the negative impacts on the fragile environment can be lessened through the consideration of the principles of environmental compatibility and implementation of climate change mitigation programmes in the energy sector planning and development.



(iv) Stakeholder Participation

A wide range of stakeholders were consulted individually and in a workshop setting to identify and formulate national energy priority issues. The consultative process has not been much greater than now and is a prerequisite for any formulation of any national framework.

(v) Good Governance

This embraces best practices for the effective, efficient and economic delivery of energy services. It also includes the welfare of vulnerable groups through the application of appropriate energy technologies.

(vi) Cultural and Traditional Compatibility

Energy services to enhance and add value to the traditional family and community lifestyles play a significant role in the socio-economic development of Tuvalu.



KEY STRATEGIC AREAS



1. Energy Sector Planning, Coordination, and Management

Government must establish its capacity to plan, coordinate and manage energy sector development plans. There is a Department of Energy established in the Ministry of Public Utilities and Industries. The effectiveness of this department depends to a great extent on the resources available at its disposal. More importantly, the department needs to be provided with a formal framework – covering institutional, financial and legal issues - to facilitate its operations. There are a host of stakeholders and players in the energy sector therefore policies addressing the different sectors of the economy and their diverse stakeholders need proper planning and coordination.

2. Petroleum

Tuvalu is heavily dependent on imported petroleum fuels. There is a high priority need to address petroleum consumption issues in all sectors of the economy and to devise appropriate policy responses, such as energy conservation initiatives and the greater use of energy pricing and taxation as instruments for conservation and end use efficiency. The maintenance of a reliable and cost effective supply of petroleum products is essential for Tuvalu.

With rising and fluctuating fuel costs, the fuel supply chain and its pricing mechanism will need to be reassessed. All efforts should be directed towards minimising the adverse impacts on the economy and measures should include consideration of available alternative energy sources.

The impact of petroleum spillages and emissions on the environment can be hazardous, particularly for the fragile atoll marine environment. For this reason, the proper handling, storage and use of petroleum products is an important issue for Tuvalu.

It is therefore essential for Government to put in place a policy framework that provides sufficient autonomy and financial incentive to maintain supply of petroleum products in a commercially orientated and cost effective manner, that sets appropriate price signals to encourage conservation and efficient use, and that enforces sufficient regulation and control measures to protect the environment.



3. Transport

The transport sector consumes a substantial volume of imported fuels. More than 50% of petroleum imports are used in the transport sector. Clearly, this calls for appropriate measures to minimise consumption and increase efficiency in the transport sector. It may also be prudent to consider legislations that would look at the type and size of vehicle engines imported into the country.

4. Electricity

The importance of establishing a reliable electricity supply to support socio-economic development cannot be understated. Electricity has been proven as a vehicle for development. It is for this fact that the provision of electricity both in the urban and rural areas is critical and given high priority in the government development plan (Te Kakeega II).

The Tuvalu Electricity Corporation (TEC), the Government owned power utility supplying power to Funafuti and also to the outer islands, needs to be nurtured and strengthened to ensure that electricity supplies are permanent and sustainable. Measures such as institutional strengthening, capacity building and asset management should be given prominence in the corporate planning programme of TEC.

5. Renewable Energy

The link between energy and the environment highlights the importance of having to place more efforts to the development of renewable energy resources available in Tuvalu. The development of renewable energy resources to diversify the energy mix offers some degree of energy security for Tuvalu. The development of renewable energy resources such as solar, wind, biofuel, etc, provides a good prospect to broaden the energy supply sources with the view of having electricity generated through 100% renewables by 2020. Tuvalu was one of the first PICs to have established a solar energy company however, due to poor management and other related issues, the company ceased operations. Given the lessons learned and renewed interest in Government's commitment to the promotion of renewable energy the revival of a dedicated unit/programme will be necessary.



6. Conservation and Efficiency

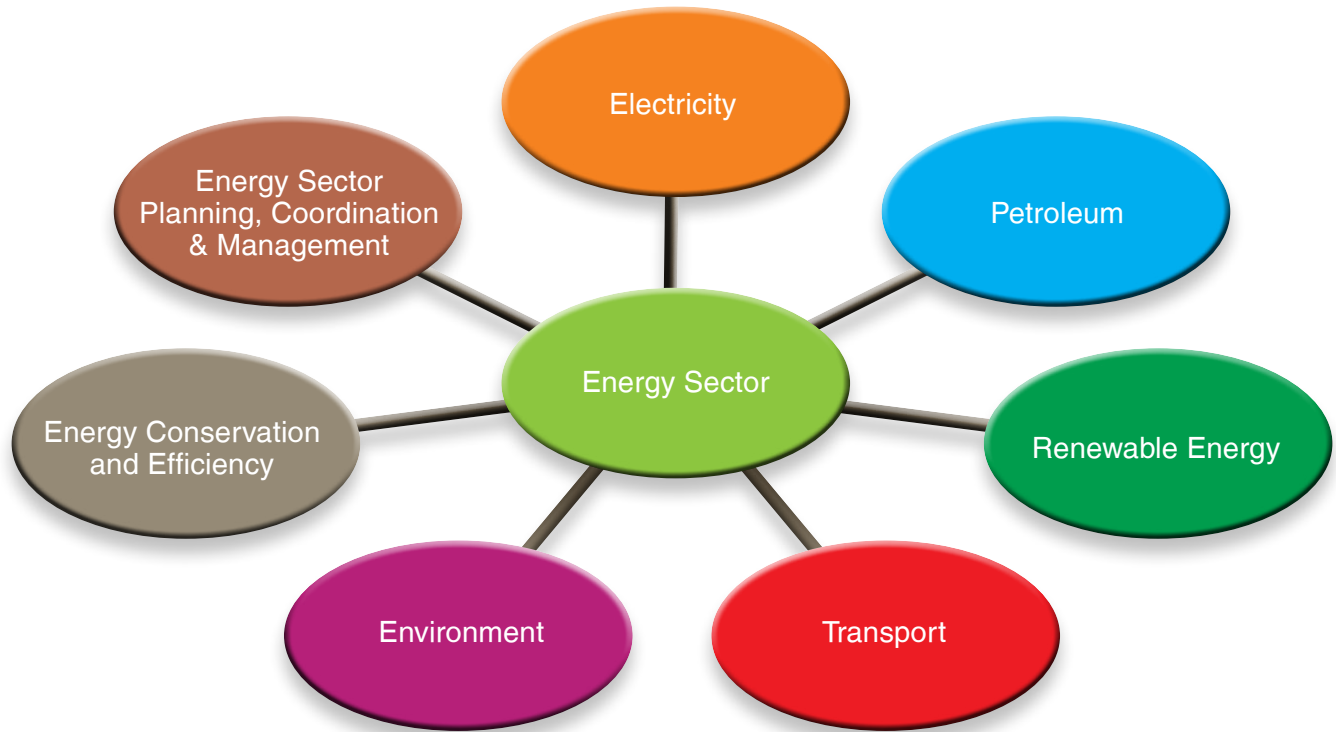
Policy responses to address the efficient use of energy sources to promote economic gains augur well with the responses aimed at addressing environmental issues. The rising energy cost together with the associated adverse impacts of energy production and use on the fragile environment necessitates policy responses aimed at conserving and the efficient use of energy. To fully realise the 100% renewable energy target, it is envisaged that a target for energy saved through conservation and efficiency be also determined.

7. Environment

The adverse impacts caused as a result of energy production, transportation and use can be counter-productive to development efforts. Scientific evidence related to the cause of global warming and associated extreme weather patterns points to the inefficient production, transportation and use of energy. Although the impacts of Tuvalu's responses to minimising Greenhouse Gas (GHG) emission may be insignificant, the adverse impacts of global warming and sea level rise pose a real threat to the very survival of Tuvalu. Therefore, it is imperative for Tuvalu to demonstrate its commitment to contribute to the protection of the environment.



KEY STRATEGIC AREAS AND POLICIES



1.0 Energy Sector Planning, Coordination and Management

Policies

- 1.1 Maintain and strengthen the Department of Energy's capacity to plan, and manage the implementation of the national energy policy.
- 1.2 Establish and maintain formal links between the Department of Energy and Government agencies, including public corporations and Kaupule, the Tuvalu Electricity Corporation (TEC), NGOs and the private sector.
- 1.3 Consolidate all energy sector planning, coordination and management so as to rationalise decision making and ensure more reliable and effective energy sector planning, management and oversight.
- 1.4 Establish an Energy Coordinating Committee (ECC) and as required, convene ECC meetings to discuss and provide advice and recommendations to the Department of Energy on major energy sector issues and initiatives.
- 1.5 Promote public awareness programmes on energy and energy related issues.
- 1.6 Promote the mainstreaming of gender into energy projects.



2.0 Petroleum

Policies

- 2.1 Ensure a secure, reliable and cost efficient supply of petroleum products including its outer islands.
- 2.2 Ensure that all petroleum products imported conform to the Pacific wide accepted Australian Product Standard, AS 3570.
- 2.3 Promote the use of cleaner petroleum products.
- 2.4 Reduce dependence on petroleum products by actively encouraging fuel conservation and efficient end-use and by actively searching for, proving and utilising cost-effective alternatives as appropriate.
- 2.5 Ensure that all petroleum storage and handling facilities are built according to the “Pacific Islands Storage and Handling Standard (1994).”
- 2.6 Ensure that all primary fuel storage facilities have sufficient storage capacity to hold a minimum contingency reserve of two (2) months of all petroleum products under normal re-supply schedules. [This will apply to storage volumes in the outer islands and not only in Funafuti].
- 2.7 Minimise the risks associated with handling, storage and waste-disposal of petroleum products on the environment.
- 2.8 Ensure that all importers are responsible for collection, storage, transportation and disposal and/or shipping waste oil and used petroleum products out of Tuvalu.
- 2.9 Provide proper training and awareness programmes to all stakeholders and the general public on the risks associated with the use of petroleum products.





3.0 Transport

Policies

- 3.1 Ensure that the sea and land transport sectors promote fuel conservation and efficiency measures.
- 3.2 Promote public awareness programmes in the area of good transportation management practices including, vehicle tuning and fuel conservation measures.



4.0 Electricity

Policies

- 4.1 Ensure that the Tuvalu Electricity Corporation (TEC) operates as a commercial power utility and is able to provide a cost effective and reliable electricity supply to meet the electricity demand within Funafuti and the outer islands.
- 4.2 Ensure that all power supply systems in Tuvalu operate with strict adherence to established environmental guidelines.
- 4.3 Encourage the use of alternative fuels and renewable energy sources for power generation.



5.0 Renewable Energy

Policies

- 5.1 Promote and implement the use of appropriate, proven, affordable and cost effective renewable energy technologies both for urban and rural applications.
- 5.2 Establish and maintain a knowledgebase for all available and appropriate renewable energy sources and technologies.
- 5.3 Ensure Tuvalu's limited biomass, copra bio-fuel and other renewable energy resources are used efficiently, in an economically, environmentally and culturally sustainable manner.
- 5.4 Develop local expertise in the installation, operation, management and maintenance of technically and economically proven renewable energy systems.
- 5.5 Develop partnerships with potential foreign and local investors, donors and agencies in seeking funding sources for the development of renewable energy programmes.
- 5.6 Develop an implementation plan to realise the target of 100% of electricity generation through renewable energy technologies by 2020.





6.0 Energy Conservation and Efficiency

Policies

- 6.1 Promote energy conservation and efficiency programmes in all sectors of the economy.
- 6.2 Ensure that energy conservation and efficiency measures are incorporated in TEC operations including generation, transmission and distribution systems.
- 6.3 Promote the use of renewable energy as a means to achieve energy efficiency where attainable.
- 6.4 Promote public awareness in conservation and efficiency measures.
- 6.5. Promote the use of energy saving measures including the use of efficient appliances and equipment.
- 6.6 Develop an energy efficiency and energy conservation target to assist in realising the 100% renewable energy target for power generation.



7.0 Environment

Policies

- 7.1 Minimise the adverse impact of energy production, distribution and consumption on the environment, and ensure that energy resources are consumed in an equitable and environmentally sustainable manner.
- 7.2 Ensure the close cooperation and coordination of organisations in the energy sector within the framework of the National Environmental Management Strategy.
- 7.3 Promote Environment Impact Assessments (EIA) in all energy sector development.
- 7.4 Promote public awareness programmes on the impact of energy related pollution on the environment.
- 7.5 Ensure that all modes of transportation specifically land and sea that use fossil fuels have minimum detrimental impact on the environment.



STRUCTURE OF THE POLICY

Vision



“By the year 2020 guided by the principles in the “Te Kakeega II” and the “Malefatunga Declaration”, Tuvalu shall attain a prosperous living standard that is fostered through an energy policy that promotes the provision of socially, financially, economically, technically, politically and environmentally sustainable energy systems and within the framework of the Tuvalu Initial National Communication under the United Nations Framework on Climate Change (Oct 1999)”.

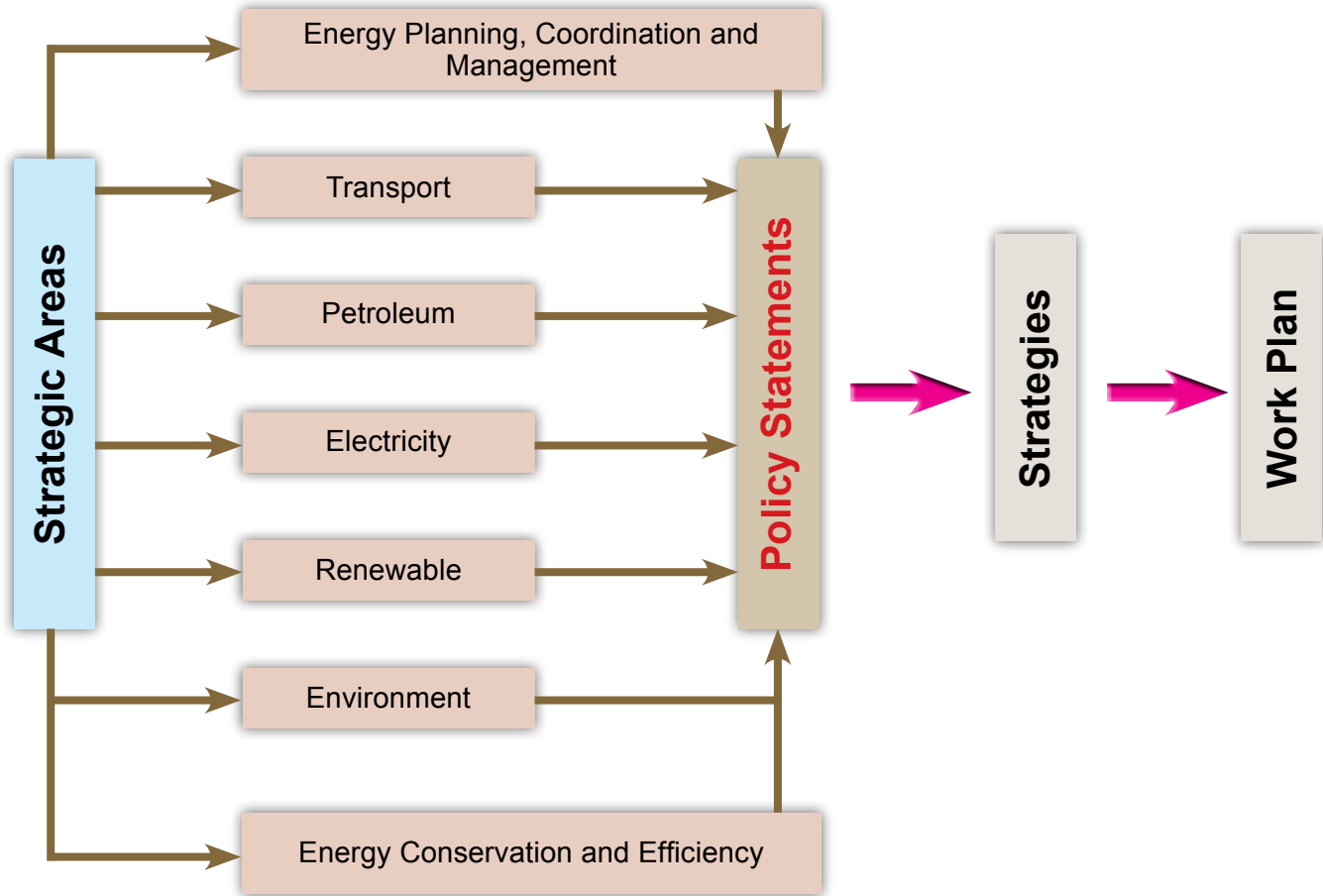


Goal



To improve the well-being of the Tuvalu people by promoting the use of its renewable energy resources and implementing cost effective, equitable, reliable, accessible, affordable, secure and environmentally sustainable energy systems.





ACRONYMS

| | |
|-------|---|
| ECC | Energy Coordinating Committee |
| EIA | Environment Impact Assessment |
| GHG | Greenhouse Gas |
| NGOs | Non-Governmental Organisations |
| PICs | Pacific Island Countries |
| SOPAC | Pacific Islands Applied Geoscience Commission |
| TEC | Tuvalu Electricity Corporation |
| TNEP | Tuvalu National Energy Policy |





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